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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/028,413 | 12/21/2001 | Alan E. Waltho | 42390P13010 | 3583 |

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| EXAMINER | |
|---|---|
| NGUYEN, DUNG X | |
| **ART UNIT** | **PAPER NUMBER** |
| 2638 | |

DATE MAILED: 01/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/028,413 | WALTHO ET AL. | |
| | Examiner | Art Unit | |
| | Dung X. Nguyen | 2638 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on *22 July 23005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☐ Claim(s) *1 - 38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1 - 36* is/are allowed.

6)☒ Claim(s) *37* is/are rejected.

7)☒ Claim(s) *38* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 December 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

***Response to Arguments***

1. Applicant's arguments filed on July 22, 2005 have been considered but are uncompleted and moot in view of the new ground(s) of rejection.

The situation is claims 1 – 4 is missing from the amendment filed on July 22, 2005. The examiner has to consider claims 1 – 4 on the application on December 21, 2001.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

*The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.*

3. **Claim 37** recites the limitation "the specific frequency band" as recited in lines 3 and 4. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

*(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.*

**2.** **Claim 37 is rejected** under 35 U.S.C. 103(a) as being unpatentable over Barrett et al. (US patent 5,584,033), further in view of Randahl et al. (US patent # 6,757,834 B2) and Iwaki et al. (US patent # 6,947,893 B1).

**Regarding claim 37,** Barrett et al. discloses:

- A means for transmitting a data word across a data transmission bus (abstract); and
- A means for recovering the data word after transmission of the data word. (abstract and column 4, lines 52 to column 5, lines 16).

Barret et al. differs from the instant claimed invention that it does not show a means for lowering a power spectral density of emitted energy of a data word when transmitted across a data transmission bus across a frequency band, a specific frequency band corresponding to an operative frequency of a wireless receiver.

However, Randahll et al. discloses a means for lowering a power spectral density of emitted RF energy of a data word when transmitted across a data transmission across a frequency band (column 2, lines 30 – 50, one of ordinary skill in the art can use this technique to the transmission bus for transmitting a data word).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Barrett et al and Randahl et al. as providing the requirements of the instant claimed invention sending the data in reducing PSD to save power energy.

And Iwaki et al. discloses (figure 13) a specific band corresponding (column 11, lines 6 – 10, the specific band in ROM addressing 221 is corresponding to PCM voice data in ROM voice data 222) to an operative of a wireless receiver (column 9, line 62 to column 10, line 2).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Barrett et al, Randahll et al., and Iwaki et al.

because the combination would allow the wireless receiver to use the specific frequency band as an operating frequency.

***Allowable Subject Matter***

3. **Claims 1 – 36 are allowed.** The following is a statement of reasons for the indication of allowable subject matter:

**Regarding to claim 1**, the prior art of record fails to show or render obvious of an apparatus to process an apparatus, comprising:

- An encoder to receive and to encode a data word, wherein a power spectral density of encoded word is lowered across a specific frequency band relative to a power spectral density of the data word;
- A data transmission bus coupled with the encoder to receive the encode word, wherein a clock frequency of a data transmission bus is selected based on the specific frequency band; and
- A decoder coupled with the data transmission bus to receive and to decode the encoded word, wherein the data word is to be obtained from the encoded word.

**Regarding to claim 11,** the prior art of record fails to show or render obvious of an apparatus to process an apparatus, comprising:

- An encoder to receive and to encode a data word, wherein a power spectral density of emitted RF energy of a first encoded word when transmitted across a data transmission bus is to be lowered across a specific frequency band relative to a power spectral density of the first data word, the specific frequency band corresponding to an operating frequency of a wireless receiver;
- A data transmission bus coupled with the encoder to receive and transmit the first encode word, wherein a clock frequency of a data transmission bus is selected based on the specific frequency band; and

- A decoder coupled with the data transmission bus to receive and to decode a second encoded word, wherein a second data word is to be obtained from the second encoded word.

**Regarding to claim 15,** the prior art of record fails to show or render obvious of an apparatus to process an apparatus, comprising:

- An encoder to receive and to encode a data word, wherein a power spectral density of emitted RF energy of an encoded word when transmitted across a data transmission bus is to be lowered across a specific frequency band relative to a power spectral density of the data word and a clock frequency of a data transmission bus, to receive the encoded word, is selected based on the specific frequency band, the specific frequency band corresponding to an operating frequency of a wireless r4eceiver.

**Regarding to claim 19,** the prior art of record fails to show or render obvious of an apparatus to process an apparatus, comprising:

- A decoder to receive an encoded word from a data transmission bus and to decode an encoded word to obtain a data word from the encoded word, wherein a power spectral density of emitted RF energy of the encoded word when transmitted over the data transmission bus is to be lowered across a specific frequency band relative to a power spectral density of the data word and a clock frequency of a data transmission bus, to receive the encoded word, is selected based on the specific frequency band, the specific frequency band corresponding to an operating frequency of a wireless receiver.

**Regarding to claim 23,** the prior art of record fails to show or render obvious of an apparatus to process an apparatus, comprising:

- A processor;

- A data transmission bus wherein a clock frequency of the data transmission bus is selected based on a specific frequency band, the specific frequency band corresponding to an operating of a wireless receiver;
- A memory to communicate with the processor;
- An encoder coupled with the data transmission bus, to receive and to encode a data word, wherein a power spectral density of emitted RF energy of an encoded word when transmitted across the data transmission bus is to be lowered across a specific frequency band relative to a power spectral density of the data word; and
- A decoder coupled with the data transmission bus to receive and to decode the encoded word, wherein the data word is to be obtained from the encoded word.

**Regarding to claim 25,** the prior art of record fails to show or render obvious of an apparatus to process a method, comprising:

- Encoding a data word, wherein a power spectral density of emitted RF energy of an encoded word when transmitted across a data transmission bus is lowered across a specific frequency band, the specific frequency band corresponding to an operating frequency of a wireless receiver;
- Transmitting the encoded word on a data transmission bus, wherein a clock frequency of a data transmission bus is selected to place on the specific frequency band proximate to a network frequency band; and
- Decoding the encoded word, received from the data transmission bus, wherein the data word is to be obtained from the encoded word.

**Regarding to claim 31**, the prior art of record fails to show or render obvious of an apparatus to process a computer readable medium containing executable computer program instructions, which when executed by a data processing system, cause the data processing system to perform a method, comprising:

- Encoding a data word, wherein a power spectral density of emitted RF energy of an encoded word when transmitted across a data transmission bus is lowered across a specific frequency band; the specific frequency band corresponding to an operating frequency of a wireless receiver;
- Transmitting the encoded word on a data transmission bus, wherein a clock frequency of a data transmission bus is selected to cause a null in a power spectrum of bits transmitted on the data transmission bus to overlap with a wireless network frequency; and
- Decoding the encoded word, received from the data transmission bus, wherein the data word is to be obtained from the encoded word

Blackell et al. (US patent application publication # 2003/0123487) lacks of the step of wherein a clock frequency of a data transmission bus, to receive the encoded word, is selected based on the specific frequency band.

4. **Claim 38 is objected** to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

*US Documents:*

Blackwell et al. (US patent application publication # 2003/0123487 A1) discloses SHDSL over POTS.

*Other Publications:*

John G. Prokakis, "Digital Communications book" ISBN 0-07-051726-6, pp. 13 – 16 and 204 - 224).

***Contact Information***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung X. Nguyen whose telephone number is (571) 272-3010. The examiner can normally be reached on Monday through Friday from 8:00 AM to 17:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Vanderpuye, Kenneth N. can be reached on (571) 272-3078. The fax phone numbers for this group is (571) 273-3021.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

DXN

October 17, 2005

KENNETH VANDERPUYE
SUPERVISORY PATENT EXAMINER